



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

## NOTICE OF ALLOWANCE AND FEE(S) DUE

27366

7590

03/27/2009

WESTMAN CHAMPLIN (MICROSOFT CORPORATION)  
SUITE 1400  
900 SECOND AVENUE SOUTH  
MINNEAPOLIS, MN 55402

EXAMINER

FRED, RUSSELL WARREN

ART UNIT

PAPER NUMBER

2128

DATE MAILED: 03/27/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,391	12/30/2003	Adam Yeh	M61.12-0568	7557

TITLE OF INVENTION: ARCHITECTURE FOR AUTOMATING ANALYTICAL VIEW OF BUSINESS APPLICATIONS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$0	\$0	\$1510	06/29/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS** FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

## HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to:** Mail **Mail Stop ISSUE FEE**  
**Commissioner for Patents**  
**P.O. Box 1450**  
**Alexandria, Virginia 22313-1450**  
**or Fax** **(571)-273-2885**

**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

27366 7590 03/27/2009

**WESTMAN CHAMPLIN (MICROSOFT CORPORATION)**  
**SUITE 1400**  
**900 SECOND AVENUE SOUTH**  
**MINNEAPOLIS, MN 55402**

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10748,391 12/30/2003

Adam Yeh

M61.12-0568

7557

TITLE OF INVENTION: ARCHITECTURE FOR AUTOMATING ANALYTICAL VIEW OF BUSINESS APPLICATIONS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$0	\$0	\$1510	06/29/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
FREJD, RUSSELL WARREN	2128	702-002000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.  
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_  
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_  
3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee  
☐ Publication Fee (No small entity discount permitted)  
☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.  
☐ Payment by credit card. Form PTO-2038 is attached.  
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_  
Typed or printed name \_\_\_\_\_ Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/748,391

12/30/2003

Adam Yeh

M61.12-0568

7557

27366

7590

03/27/2009

EXAMINER

FRIED, RUSSELL WARREN

ART UNIT

PAPER NUMBER

2128

DATE MAILED: 03/27/2009

WESTMAN CHAMPLIN (MICROSOFT CORPORATION)  
SUITE 1400  
900 SECOND AVENUE SOUTH  
MINNEAPOLIS, MN 55402

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 646 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 646 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

**Notice of Allowability****Application No.**

10/748,391

**Applicant(s)**

YEH ET AL.

**Examiner**

Russell Frejd

**Art Unit**

2128

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment received 8 January 2009.
2. ☒ The allowed claim(s) is/are 1-6, 8, 10-15 and 17-26.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of the:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached  
1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.  
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.  
**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date 12.4.08
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

/Russell Frejd/  
Primary Examiner, Art Unit 2128

***Allowance of Application 10/748,391***

1. The following communication is in response to applicant's amendment received 8-January-2009. Claims 1-6, 8, 10-15 and 17-26 are pending in the application. Claims 7, 9 and 16 are canceled.

***Reasons for Allowance***

2. The following is an Examiner's Statement of Reasons for the indication of allowable subject matter.

2.1 Claims 1-6, 8, 10-15 and 17-26 are considered allowable, since when reading the claims in light of the specification, as per MPEP § 2111.01, none of the references of record alone or in combination disclose or suggest the combination of limitations specified in independent claims nos. 1 and 15, and specifically in regard to claim 1: a model service system configured to receive, as an input, an object model description, indicative of a first object model that represents business data, and generate a dimensional model based on the input [defined at p. 18, ln. 14 through p. 19, ln. 20; p. 20, ln. 5 through p. 21, ln. 24; p. 25, ln. 18 through p. 30, ln. 13]; an entity generator generating a second object model based on the dimensional model, the second object model representing business data represented by the dimensional model [p. 21, ln. 25 through p. 23, ln. 7; p. 30, ln. 14 through p. 32, ln. 2]; and a navigation service configured to identify a data navigation path from relationships between individual sets of data that comprise the business data, and output the data navigation path for navigation by a user from a first data set to a related second data set wherein the navigation service comprises: a plurality of navigation providers each associated with a specific type of navigation [p. 41 ln. 7 through p. 48, ln. 2]; a navigation service layer configured to transmit a navigation service request to one or

more of the navigation providers that are registered with the navigation service layer [p. 48, In. 10 through p. 49, In. 2; p. 52, In. 16 through p. 58, In. 29]; and a metadata service for providing the plurality of navigation providers with access to a metadata store, each navigation provider being configured to respond to a received data navigation request by interacting with the metadata service to identify at least one data navigation path and to return the at least one identified data navigation path to the navigation service layer for output to the user [p. 48, In. 10 through p. 51, In. 10; p. 53, In. 20 through p. 54, In. 2].

Furthermore, claim 15 defines a design system configured to receive a transactional object model description describing a transactional object model used in collecting the transactional business data and generate a dimensional model and an analytical programming object model from the transactional object model description, the analytical programming model representing data represented by the dimensional model and the transactional object model [p. 18, In. 14 through p. 19, In. 20; p. 20, In. 5 through p. 21, In. 24; p. 25, In. 18 through p. 30, In. 13]; and a navigation service configured to automatically identify navigable paths between data sets in the business data in the system and output the paths for navigation by a user wherein the navigation service is configured to identify navigation paths among data sets in the transactional object model, the dimensional model and the analytical programming object model [p. 41 In. 7 through p. 48, In. 2].

Dependent claims 2-6, 8, 10-14 and 17-26 are deemed allowable as depending either directly or indirectly from independent claims 1 and 15.

**2.2** The instant application is directed to a non-obvious improvement over the inventions described in US Patent No. 7,007,729 to Chen in view of US Patent No. 7,185,016 to Rasmussen, neither of which disclose: 1) any type of separate navigation service or navigation

providers that can register with the navigation service to provide different types of navigation paths, wherein the navigation service comprises at least a plurality of navigation providers each associated with a specific type of navigation, as is set out in independent claim 1; nor 2) that the navigation service identifies navigation paths among data sets in the transactional object model, the dimensional model, and the analytical programming model, thereby allowing the user to move among different data sets, in different models (the transactional model, the dimensional model and the analytical programming model) to view, for instance, underlying transactional data that give rise to a reported data set, as is set out in independent claim 15.

**2.3** The art of record, either individually or in combination, fails to teach, suggest, or render obvious the specific arrangement of elements in the same combination as now required by the amended claims. In view of the foregoing, the claims of the present application are found to be patentable over the prior art.

### ***Response Guidelines***

**3.** Any comments considered necessary by applicant **MUST** be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should clearly be labeled "Comments on Statement of Reasons for Allowance".

**3.1 Any response to the Examiner in regard to this allowance should be**

**directed to:** Russell Frejd, telephone number (571) 272-3779, Monday-Friday from 0530 to 1400 ET, **or** the examiner's supervisor, Kamini Shah, telephone number (571) 272-2279. Inquires of a general nature or relating to the status of this application should be directed to the TC2100 Group Receptionist (571) 272-2100.

**mailed to:** Commissioner of Patents and Trademarks

Art Unit: 2128

P.O. Box 1450, Alexandria, VA 22313-1450

**or faxed to:** (571) 273-8300

Hand-delivered responses should be brought to the Customer Service Window, Randolph Building, 401 Dulany Street, Alexandria, VA, 22314.

**Date:** 23-March-2009

/Russell Frejd/  
Primary Examiner AU 2128